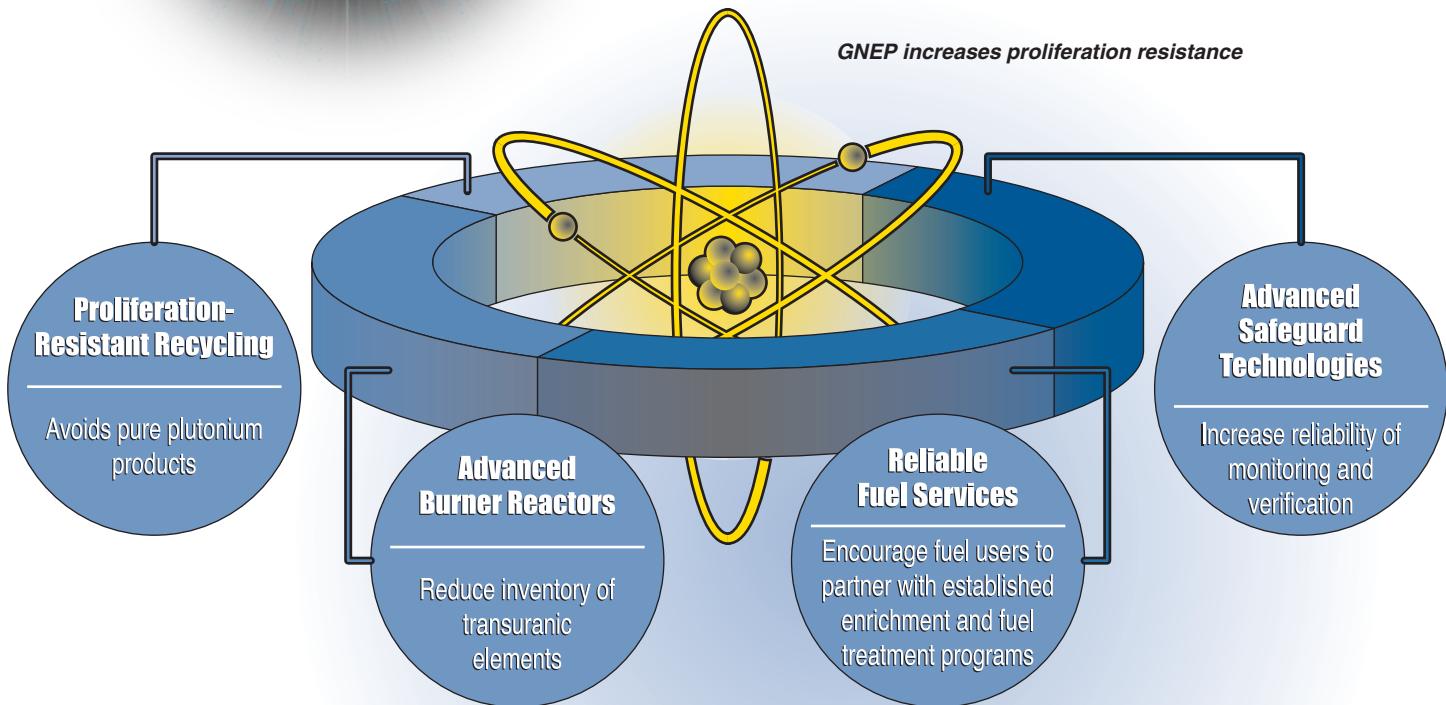




# The Global Nuclear Energy Partnership (GNEP)



**United States  
Department of Energy**



## Improved Nuclear Safeguards

*Enhancing the Proliferation-resistance and Safety of Expanded Nuclear Power*

The Global Nuclear Energy Partnership (GNEP) will help prevent misuse of civilian nuclear facilities for nonpeaceful purposes by developing enhanced safeguards programs and technologies. International nuclear safeguards are integral to implementing the GNEP vision of a peaceful expansion of nuclear energy and use of more proliferation-resistant fuel cycle technologies.

### ***The building blocks of nonproliferation***

Safeguards are the basic building blocks of international nonproliferation programs: accounting for nuclear materials, control of technology, transparency in the use of technology and materials to validate peaceful uses, and the ability to inspect and verify compliance with international agreements

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and obligations. International safeguards have been an effective deterrent against the spread of nuclear technology and materials. GNEP provides the opportunity to design modern safeguards directly into the planning and building of new nuclear energy systems and fuel cycle facilities. Incorporating safeguards into the design phase for new facilities will allow the International Atomic Energy Agency (IAEA) to monitor and verify nuclear material even more effectively and efficiently. Nuclear technology suppliers will also be able to require the implementation of these enhanced safeguards design elements and work with IAEA to ensure that they are applied in a comprehensive manner. A basic goal of GNEP is to make it impossible to divert nuclear materials or modify systems without immediate detection.

## ***International safeguards collaboration***

Possible collaboration includes:

- Incorporation of nuclear safeguards technology into designs for recycle facilities, advanced fast reactors and associated nuclear materials storage and transportation, making them proliferation resistant.
- Development of high reliability, remote and unattended monitoring technologies; advanced containment and surveillance; smart safeguards information collection,

management and analysis systems; nuclear facility use-control systems; and next generation nondestructive analysis and process monitoring sensors.

- Research and development of advanced material tracking methodologies, process control technologies and plant engineering.
- Remote sensing, environmental sampling and forensic verification methods.
- International facilities for conducting testing and demonstration.
- Continued support for global best practices for security and accounting of nuclear materials.

## ***Working with the IAEA and GNEP partners***

The U.S. will continue to work closely with the IAEA and GNEP international partners in implementing the advanced safeguards technology and integrated systems approaches. The U.S. is already a primary supplier of safeguards technology and trains all IAEA inspectors in the use of safeguards for tracking nuclear materials. GNEP will support the IAEA in use of these technologies and encourage similar investments in safeguards technology and integrated systems approaches by GNEP international partners. Under GNEP, international safeguards will be an integral part of the global expansion of nuclear power, including the development of future proliferation-resistant fuel cycle and reactor technologies.

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